

SEG/AAPG WORKSHOP

Mesozoic Intrashelf Basins of the Middle East

*Exploring and Development for
Conventional Reservoirs and
Unconventional Source Rocks*



Grosvenor House • **Dubai, UAE**

11–13 May 2015



2015 SEG/AAPG Workshop

11–13 May 2015

Grosvenor House ■ Dubai, UAE

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*Exploring and Development for
Conventional Reservoirs and
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Technical Committee Members



Stanley R. Wharton (cochair), is currently employed in the Regional Resource Assessment Department of Saudi Aramco, Saudi Arabia. He has over 25 years' experience in regional playfairway mapping and exploration in Paleozoic, Mesozoic and Cenozoic Miocene/Pliocene deltaic reservoirs. Previous to Saudi Aramco he worked for approximately 12 years with Amoco, bpAmoco and bp in exploration, appraisal and development focusing on world class Pliocene and Miocene offshore deltaic reservoirs. While at bp, he was a former technology champion for seismic facies classification application internationally. He is a former Secretary-Treasurer for the AAPG Latin American Regions, former Latin American representative on the AAPG Distinguished Lecturer Committee and co-convenor for two AAPG Hedberg meetings. He is the current Assistant Editor for the Seismic Chronostratigraphy Special Section in the SEG/AAPG Interpretation Journal due for publication in May 2015. He has published several papers internationally at AAPG, EAGE, SPE meetings and in the Oil and Gas Journal on sequence stratigraphy, seismic attributes and visualization. His current research interest involves application of multi-disciplinary workflows and integrated seismic applications for reservoir characterization and resource assessment.



Abdulrahman Al Sharhan (cochair), received his B.Sc (1978) in Geology from Cairo University, and M.Sc. (1983) and Ph.D. (1985) in Geology both from the University of South Carolina, USA. Currently, he is Emeritus Professor of Geology & consultant on petroleum systems of Middle East & North Africa.

With a 35-year career (as of 2014) Alsharhan has experience in the oil industry and with academia, both as professor and Dean of College of Science at UAE University; the latter enabled him during the past 25 years to publish more than 100 scientific papers in international journals and 8 books on his research interests which concentrate on the petroleum geology of the Middle East, water resources and integrated management and climatic changes and desertification of the Arabian Gulf region. He served as reviewer for international scientific journal such as American Association of Petroleum Geologists (AAPG), and member of advisory board for Journal of African earth Sciences, International Association of Sedimentology, Arabian Journal of Geosciences and Middle East Petroleum Geosciences (GeoArabia). Outside of the university he holds or has held several positions such as: Chairman of Ras Al Khaimah Cement Company, Chairman of International Center for Biosaline Agriculture (present), General Secretary for Emirates Appreciation Prize for Environments and President of American Association of Petroleum Geologists, Middle East Region from 2011-2013.



Fernando Neves is a Geophysical Advisor at the Abu Dhabi National Oil Company (ADNOC). He received his Ph.D. in Geophysics from The University of Cambridge-England and a Post Doctorate at The Colorado School of Mines-USA. Fernando worked for Saudi Aramco, Shell International and Petra Energia. At ADNOC he has been working at the Exploration Division, Hydrocarbon Maturation Department, where he leads the seismic interpretation and reservoir characterization team. He is an active member of SEG and EAGE.



Haya Al-Hashash graduated from Kuwait University with Bachelor of Science in Geology in 2001. Joined KOC in September 2002 in FD GBS Team. I worked with the static Modelling team. Prepared Water Encroachment Model for 3SM formation. Worked in Gocad, Zee map, Stratworks, Geolog, I have done seismic interpretation with seisworks. I was transferred to FDSK with GC-01 & 02 as a development Geologist. Released Development wells, picked up HKW for 3SU, 3SM, 3SL and 4S formations. Maintain GC production targets. Worked in Heavy oil project and 3SL Development project. I started the first side-track well of FDSEK BG-0260. I worked with Sequence stratigraphic project of IFP. I also located development wells for new opportunity project. I was transferred to RGP team where I am the Coordinator of Geological activities. I am involved in well planning and release. 2D mapping of Wara net sand, remaining oil column, Water encroachment, Gas cap map, API gravity, SBHP, GOR etc. I had external on Job training with Paradigm in static modelling with Gocad and SKUA. I also had training in AVO and seismic inversion and Petrophysical evaluation of well logs.



Jalal Khazanehdari is a Principal Geophysicist in Schlumberger with 20 years geophysical and geological interpretation experience both in field exploration, development and studies.

He had worked in various aspects of seismic wave propagation, including seismic processing, interpretation, seismic inversion as well as rock physics, geomechanic and geological modelings.

He obtained a BSc from Oxford Brooks University in Earth Sciences, a MSc in Applied Geophysics from Birmingham University and a PhD in rock physics and structural geology from Manchester University. Since 1996 he has worked as a research associate, technical expert, technology developer and project manager for various academic and companies. He joined Schlumberger in 2002 as Senior Rock Physicist and since has held many positions. Currently he is the Global Technical and Business Manager for Schlumberger Seismic Reservoir Characterization.



Slobodan Stojic obtained a M.Sc. in geology from the University of Belgrade (Serbia). He has 16 years industry experience within Naftagas (NOC) and Schlumberger. He is currently the principal geologist and geomodeler for Schlumberger Middle East consultancy services, based in Abu Dhabi, U.A.E.. He is expert in 3D static modeling, involving utilization of his multi domain knowledge into state-of-the-art modeling. He has been working on clastic, carbonate and fracture reservoir evaluation, as well as field exploration and development projects in most of continental Europe, North Africa and Middle East. He is a MEA focal point for Shale Gas and all other unconventional resources finalizing more than 50 basins evaluation. His special interests are advance rock typing and core analysis. In addition to providing technical work, he is also responsible for mentoring junior staff and project management for assigned projects.



John Tinnin has thirty-four years' experience in exploration, production, project management and reservoir characterization. He has international experience in more than 35 countries and has extensive experience in both conventional and unconventional plays. John's experience includes twenty-two years with oil companies and most of that with Phillips Petroleum. John has also spent twelve years with service companies as manager of technical reservoir development groups. John is currently the Baker Hughes Geoscience Discipline Lead for the Middle East and Asia Pacific Regions and is responsible for project quality assuredness, career development and new technology within the geology, geophysical and petrophysical disciplines. John has written and presented more than 40 papers in different professional forums around the world. He was recently awarded the AAPG Gabriel Dengo Award for the Best International Paper entitled "A Case Study Demonstrating the Ability of 3D3C Seismic to Predict Natural Fractures and Petrophysical Properties of Shale".



Theresia Kuswardhany is geoscientist, graduate in Geology Faculty in Indonesia and Master Business Administration in Malaysia.

Theresia Kuswardhany has twenty-three years' experience in exploration, new ventures, development, block merger and acquisition, Petroleum system, sequence stratigraphy, reservoir characterization and reserves/resources calculation. He has international experience in working in SE Asia, Bangladesh, India, Australia, PNG, Oman, West Russia, West and East Africa Deep Water and recently in Middle East and North Africa Region. Theresia has extensive experience in clastic shallow water to deep water environment, Carbonates, Basement and Upside/Unconventional Potential of earliest sediment. Theresia spent both for as permanent employee or consultant for world class companies such as Amoseas Indonesia, Caltex Pacific Indonesia, Maxus Inc Indonesia, YPF-Repsol Indonesia, Repsol Malaysia, CNOOC, Petronas Malaysia, PTTEP Thailand and Weatherford Oil Tool Petroleum Consulting United Arab Emirates. Theresia is currently the Weatherford Oil Tool Petroleum Consulting United Arab Emirates for Geoscience Discipline Petroleum Consulting for the Middle East and North Africa Regions and is responsible for a project manager for a production field in onshore Libya, career development and new technology within the geology, geophysical, merge and acquisition blocks. John has written and presented some papers in different professional forums such as PGCE and AAPG.



Robert Chanpong is currently, Head of Geoscience, Occidental Oil and Gas International, Abu Dhabi, U.A.E. He graduated from BSc Biology and MSc in Petroleum Geology. Over 35 years as a geoscientist for BP, Conoco-Philips and Oxy. Originally from Trinidad, West Indies, Robert has contributed to the appraisal and development oil and gas fields in Trinidad, Peru, Russia, Indonesia, Colombia, Qatar and Abu Dhabi. He recently served as Oxy's Head of Geoscience in the Qatar and Colombia offices, and since 2012, in Abu Dhabi. Robert welcomes the technical challenges which come accompany the analysis of complex reservoirs and the opportunities for knowledge transfer through mentoring and coaching. He enjoys living in Abu Dhabi, its people and cultural diversity, the excellent fishing and the natural beauty of the Emirates.

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All Technical Sessions, Coffee Breaks, and Lunches at the Grosvenor House Hotel, Dubai

Monday, 11 May

06:30–14:30.....Field Trip to the Modern Sabkha Environment in Abu Dhabi, UAE

17:00–19:30.....Registration and Icebreaker:
Siddharta Lounge, Grosvenor House Hotel, Dubai

Tuesday, 12 May

07:30–08:30.....Onsite Registration: Windsor Ballroom 2, Grosvenor House Hotel, Dubai
Coffee, Tea, Juices and Morning Refreshments Available

08:30–09:00.....Hotel Safety Briefing
Welcome by Committee Co-chairs

09:00–09:20.....**Opening Speech by Hussain Otaibi, Saudi Aramco**

► Session 1 Regional Geology, Seismic Imaging & Stratigraphy

Session Chairmen: Fernando Neves (ADNOC) and Eisa Sager (Saudi Aramco)

09:20–09:50.....**Keynote: Petroleum System and future potential of the Middle East**
Abdulrahman Alsharhan, Middle East Geological Establishment

09:50–10:20.....**Sequential Reconstruction of the 3D Geological Model at a Middle Cretaceous Wasia Intraself Basin Margin — Saudi Arabia**, Stanley Rich Wharton, Saudi Aramco

10:20–10:35.....Coffee Break — 15 min

10:35–11:05.....**The Evolution of Intra-Shelf Basins of the Middle and Late Triassic and the Early Jurassic, Abu Dhabi, UAE by Integration of Well Data and 3D seismic**, Jialiang Hu, ADNOC

11:05–11:35.....**Evolution of Tide-Dominated Oolite Shoals on an Intraself Basin Margin: Case Study from the Lower Arab Formation**, Onshore UAE, David A. Lawrence, Al Hosn Gas

11:35–12:35.....Discussion — 60 min

12:35–13:45.....Lunch at Sloane's Restaurant

► Session 2 Petroleum Systems & Unconventional Resources

Session Chairmen: Theresia Kuswardhany (Weatherford) & Patrick McEffer (Saudi Aramco)

13:45–14:15.....**Keynote: Faeza Katheri, ADCO**

14:15–14:45.....**Mesozoic intraself basins of the Arabian Plate — application of a regional sequence stratigraphic framework to stratigraphic and resource plays**, Joanne Wyton, Halliburton

14:45–15:00.....Coffee Break — 15 min

15:00–15:30.....**Characterization of organic-rich deposits in a paleogeographic context: Implications for property prediction** Sander Houben, TNO-Petroleum Geosciences

15:30–16:00.....**3D Modelling of Water Encroachment using time lapse TDT logs in a Heterogeneous fluviodeltaic shaly sand reservoir of Greater Burgan field**, Sethu Madhavan, KOC

16:00–17:00.....Discussion — 60 min

18:30.....Depart to Dubai Marina for Cruise Dinner by Xcusive Yachts

19:00–21:30.....Dinner and Networking (Buses will return guests to the hotel at the conclusion of the dinner)

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Wednesday, 13 May

➤ Session 3 Reservoir Characterization, Seismic Attribute Application & 3D Geological Modeling

Session Chairmen: Haya Al-Hashash (KOC) & Robert Chanpong (Occidental Petroleum)

09:00–09:30.....**Keynote: Seismic inversion and attribute application for reservoir characterization and fractured reservoir modeling: case studies in Kuwait** *Taiwen Chen, KOC*

09:30–10:00.....**Targeting Middle to Late Jurassic Reservoir, Source Rocks and Seals at the Gotnia Intraself Basin Margin**, Saudi Arabia *Stanley Rich Wharton, Saudi Aramco*

10:00–10:15.....Coffee Break — 15 min

10:15–10:45.....**Increasing the reliability of geological models based on spectral decomposition and interactive analysis of the seismic data**, *Vitalij Cybuls kij, ffa GeoTeric*

10:45–11:45.....Discussion — 60 min

11:45–12:45.....Lunch at Sloane's Restaurant

➤ Session 4 Application and Integration of New and Improved Technologies

Session Chairmen: John Tinnin (Baker Hughes) & Slobodan Stojic (Schlumberger)

13:00–13:30.....**Keynote: Modeling Diagenesis in Carbonates – Key Challenges and Solutions**
Subrata Chakraborty, Schlumberger

13:30–14:00.....**Successful “Dump Flood” Water Injection Application to Enhance Sweep and Maintain Reservoir Pressure — A Case Study**, *Santanu De, KOC*

14:00–14:15.....Coffee Break — 15 min

14:15–14:45.....**Proactive Optimization of Placement of Lower Burgan Horizontals via sand body geometry delineation using Borehole Image data**, *Sankar Chowdhuri, KOC*

14:45–15:15.....**A Deterministic Frequency Enhancement Approach for High Resolution Surface Seismic Imaging**, *Tone Trudeng, Schlumberger*

15:15–16:15.....Closing Discussion — 60 min

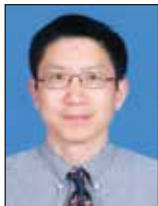
Keynote Speaker



Hussain M. Al-Otaibi has joined Saudi Aramco in 1984 after completing BSc in Petroleum Geology from King Fahad University of Petroleum and Minerals (KFUPM). In 2011 completed Executive University Program at Wharton Business School/University of Pennsylvania. Background covers comprehensive multi-disciplinary work and management experience in Exploration and Development Geology, Petrophysics, reserves and resources assessment, Geophysics and Reservoir Management. President AAPG of the Middle East Region (2009-20011). Former President and Founder of the Dhahran Geosciences Society (DGS). Member of SPE Oil and Gas Reserves Committee. A lead role in formulating the latest SPE Petroleum Resource Management System (SPE-PRMS, 2007). Distinguished Lecturer SPE International (2005-Minimizing Uncertainty in Petroleum Reserves). Leadership of concept generation and process management to add hydrocarbon reserves from discoveries, extensions and reservoir reviews. Participated in many conferences and workshops as session chairman, chairman/co-chairman, panelist and speaker – AAPG, SPE. Active member of AAPG, SPE and SEG. Currently Manager Exploration Resources Assessment Department in Saudi Aramco.

Keynote Speaker

Faeza Katheri, started her Career life in ADNOC as exploration geologist then moved to the unconventional team as project manager for different studies held for the company and IOC. And currently she is working in Abu Dhabi company for onshore petroleum operations (ADCO) as geoscience advisor in the exploration team, she graduated from UAE university as petroleum geologist then she joined the petroleum geoscience program and had her master degree from the same university. Faeza is very active board member in SPE Abu Dhabi section as well as EAGE.



Taiwen Chen received his B.Sc. in Petroleum Geology in 1987 from the University of Petroleum, China, and his M.Sc. in Geophysics in 1994 from the University of Calgary, Canada. He started his career with PanCanadian Petroleum /EnCana in 1994 as a seismic processing geophysicist. From 1996 to 2007, he worked as a seismic interpreter exploring for clastic and carbonate reservoirs using interpretation methods such as horizon time structure and amplitude mapping, forward modeling, depth conversion, pre- & post-stack inversions, as well as neural network analysis. He also worked on the interpretation of complex foothills structures using pre-stack time and depth migration. In 1997, he was involved in developing the new AVO indicators: Lambda-Rho & Mu-Rho, and cross plotting them for lithology discrimination and gas sand detection. In 2007, he joined Apache Canada, mainly focusing on gas shale reservoir mapping, utilizing micro-seismic technology for hydraulic fracture monitoring. In 2009, he joined Kuwait Oil Company as a Geophysical Specialist in the Exploration Group. His current interests are seismic inversion for rock property prediction, AVO for lithology detection and fluid discrimination, neural network analysis for enhancing porosity estimation by combining the seismic and log data, fault and fracture detection using seismic attributes, and fractured reservoir modeling.

Taiwen has presented and co-authored several technical papers at various SEG, EAGE, and CSEG conventions. His 2011 EAGE annual conference presentation was selected as EAGE 2012 Distinguished Lecture Program. He is a member of SEG and EAGE.



Subrata Chakraborty, started his professional career in 1985 with Oil & Natural Gas Corporation of India, the largest national oil company of India. Subsequently, worked with Reliance Industries of India, the largest private sector E&P Company of India. Presently working with Schlumberger as a G&G Advisor for Middle East and Asia. Over last 27 years of professional career, he has worked for various field development projects, including giant carbonate oil field Mumbai High, worked in all basins of India including several carbonate and clastic oil and gas fields. Worked in Indonesia in many reservoir modeling projects in various fields in South and Central Sumatra, Java, Sulawesi and Natuna Sea for various international and local E&P Companies. Worked on giant clastic NanPu Jidong field development projects in Bohai Bay of China and Shah Gas Field Development Project in UAE. He worked for several years on the reservoir modeling and field development of a giant Jurassic naturally fractured carbonate reservoirs in Kuwait. He also has rich experience in modeling fractured basement reservoir in Yemen. Presently he is working as a G&G Advisor of Middle East & Asia for Schlumberger.

His specialization includes reservoir characterization and modeling, horizontal well forward modeling and real time monitoring, fracture modeling and fault seal analysis.

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SEG Middle East — Calendar of Events

NOVEMBER 2015

Third International Conference on Engineering Geophysics (ICEG)

<http://www.seg.org/events/upcoming-seg-meetings/2015/iceg-uae15->

- 18–15 November 2015 — United Arab Emirates University, Al Ain, UAE

Abstract Submission Deadline: 22 May 2015

Registration will be Open: 20 May 2015

DECEMBER 2015

International Petroleum Technology Conference

- 9–6 December 2015 — Qatar National Convention Centre, Doha, Qatar

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2nd SEG/DGS Near-Surface Modeling & Imaging Workshop

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